

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
31 July 2003 (31.07.2003)

PCT

(10) International Publication Number
WO 03/062249 A3

(51) International Patent Classification⁷: C07F 3/00, 3/02

(21) International Application Number: PCT/GB03/00163

(22) International Filing Date: 16 January 2003 (16.01.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0201141.9 18 January 2002 (18.01.2002) GB

(71) Applicant (for all designated States except US): IC INNOVATIONS LTD [GB/GB]; 47 Prince's Gate, Exhibition Road, London SW7 2QA (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MARSHALL, Edward [GB/GB]; 8 Miller Road, Croydon, Surrey CR0 3JY (GB). SEGAL, John [GB/GB]; 15 The Jinnings, Welwyn Garden City, Hertfordshire AL7 4QB (GB). GIBSON, Vernon, Charles [GB/GB]; Flat 2, 46 Prince's Gate, Exhibition Road, London SW7 2QA (GB).

(74) Agents: CLYDE-WATSON, Zoe et al.; D Young & Co., 21 New Fetter Lane, London EC4A 1DA (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

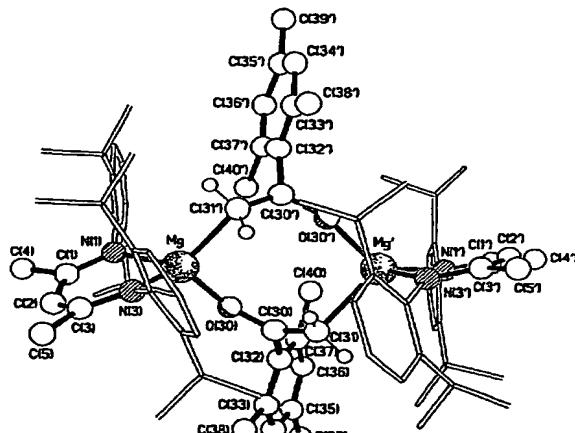
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

[Continued on next page]

(54) Title: COORDINATION COMPLEX





— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

27 November 2003

INTERNATIONAL SEARCH REPORT

Internal Application No
GB 03/00163A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07F3/00 C07F3/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GIBSON, VERNON C. ET AL: "Novel Mono-alkyl Magnesium Complexes Stabilized by a Bulky. β -Diketiminate Ligand: Structural Characterization of a Coordinatively Unsaturated Trigonal System" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY (2000), 122(29), 7120-7121, XP002234846 Scheme 1: compounds 2-4 page 7120, column 2; figures 1-3 page 7121, column 2, paragraph 3 page 7121, column 1 ---	1-6,15, 21
X	EP 0 747 405 A (BRIDGESTONE CORPORATION, JAPAN) 11 December 1996 (1996-12-11) page 5, line 35 - line 55 page 11, line 1 -page 16 ---	23,24,26 32
X	---	1,2
X	---	23
	-/-	

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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- "P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search

25 September 2003

Date of mailing of the international search report

01 10. 2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Richter, H

INTERNATIONAL SEARCH REPORT

Intern: Application No

P GB 03/00163

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WEEBER, ARMIN ET AL: "Homoleptic and Heteroleptic Barium Benzyl Complexes: Synthesis and Reactivity as Initiators for Anionic Styrene Polymerizations" ORGANOMETALLICS (2000), 19(7), 1325-1332, XP000920607	1-3
X	compound 6: (C ₅ Me ₅) ₂ Ba.2THF; page 1327, column 2 barium bis(2,4,6-tri-tert.-butyl phénolate.2THF page 1330, column 2, line 32 - line 33	1-3
X	DATABASE CA [Online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; RAMIREZ, FAUSTO ET AL: "Preparative chemistry of organic magnesium oxyanion complexes. 5. Aroxide complexes" retrieved from STN Database accession no. 91:32007 XP002234848 abstract; figures 21,22 & SYNTHESIS (1979), (1), 71-4,	1-3
X	DATABASE CROSSFIRE BEILSTEIN [Online] Beilstein Institut zur Förderung der Chemischen Wissenschaften, Frankfurt am Main, DE; Tetrahedron, 53; 22; 7671-7688, 1997 DESIMONI, G. ET AL.: Database accession no. BRN 7792064 XP002234867 abstract	1-4,8
A	ZHONG, ZHIYUAN ET AL: "A Novel and Versatile Calcium-Based Initiator System for the Ring-Opening Polymerization of Cyclic Esters" MACROMOLECULES (2001), 34(12), 3863-3868, XP002234847 Ca[NSiMe ₃] ₂ 2(THF)2 page 38633 -page 3867; table 1	1-3,17, 23.
A	XVIIth International Conference on Organometallic Chemistry; Munich, August 16-21, 1998, Part 1 Poster Session A; D.Schramm, W.Kläui "Synthesis of Cationic Hydrotris(pyrazolyl)borate Zirconium Compounds" XP002249590 A 150 abstract	9,14

INTERNATIONAL SEARCH REPORT

Int. ional application No.
PCT/GB 03/00163

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 4-8,31-33; partially: 1-3,15-30,34,35

Bidentate complexes falling within formula I according to claim 1, their preparation and use

1.1. Claims: partially 1-3,15-30,34,35

Monodentate complexes of formula I and their use

2. Claims: 9-14, partially 1-3,15-30,34,35

Tridentate complexes falling within formula I according to claim 1 and their use

Please note that all inventions mentioned under item 1,- although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

INTERNATIONAL SEARCH REPORT

Interr

Application No

P03/03 03/00163

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
EP 0747405	A	11-12-1996	US 5610227 A	11-03-1997
			CA 2178145 A1	08-12-1996
			DE 69601327 D1	25-02-1999
			DE 69601327 T2	27-05-1999
			EP 0747405 A1	11-12-1996
			ES 2126353 T3	16-03-1999
			JP 9003111 A	07-01-1997